Patient centred care in diagnostic radiography (Part 1): Perceptions of service users and service deliverers

Introduction

There is growing awareness of the importance of patient centred care (PCC) as an essential tenet of high quality healthcare[1,2,3]. The four principles of PCC, as defined by the Health Foundation,[3] (affording people dignity, compassion & respect; offering coordinated care, support or treatment; offering personalised care, support or treatment; and supporting people to recognise and develop their own strengths and abilities to enable them to live an independent and fulfilling life) are embedded within the Person-Centred Approaches framework[1] which identifies the core transferable behaviours, attitudes and skills for delivering person centred care. There is also evidence that the principles of PCC have informed local 'Sustainability & Transformational Plans',[4] emphasising the centrality of PCC within healthcare strategy, policy and delivery. Within Radiography in the UK, elements of PCC can be seen embedded within professional body publications and guidance [5,6] but there is limited research evidence exploring service user experiences of care in radiography[7,8] and no identified study has considered whether the perceptions of PCC are equivalent between those delivering (radiographers) and those experiencing (patient) care within the radiography setting. This study aimed to address this gap by determining compatibility in perceptions of PCC between those using and those delivering radiography services as a first step in developing tangible, measurable, observational indicators of PCC that meet service user expectations.

Background

While the radiography research evidence base exploring PCC is limited, a number of studies in medicine and nursing have considered the impact of PCC on interactions with service users and service delivery staff within the acute hospital setting. [9-13] These studies report a range of measurable benefits of PCC and include cost efficiencies as a result of reducing post-operative hospital stays[9] and shorter hospital admission stays for acute coronary syndrome by enabling greater patient self-efficacy. [10] They also identified improved patient perception of the role of nurses as a source of knowledge, delivering patient tailored communication[11,12] and emotional support.[13]

Further studies undertaken within the social and residential care environments have highlighted the importance of organisational culture for promoting and encouraging

healthcare professionals to engage in, and develop behaviours consistent with, PCC. A study in Israel found that nurses working in retirement homes were more likely to demonstrate PCC behaviours where the employing organisation had clear expectations of what a high-quality service looked like and encouraged a culture of support and training for staff.[14] Similarly, a study looking at staff working in dementia care facilities in Australia found that adopting a PCC approach created, and implied, a sense of competence in staff.[15] Both of these studies emphasised the need for the employing organisation to define PCC within the context of the care service delivered in order to develop, and engage staff in, a high quality, person-centred care culture. A further Swedish study[16] asked staff from 87 residential care facilities to self-evaluate the delivery of PCC and its impact. While self-evaluation data can be criticised as being potentially biased, those respondents who reported working in centres where PCC was embedded in the culture of care also self-reported residents as having a higher quality of life.

Findings have also emerged from studies of outpatient care. In a study of patients with long-term health conditions, service users valued attention being focussed to their own personal situation and the tailoring of care to their individual needs, an essential facet of PCC, highlighting that “one size [of care] does not fit all”.[17] Similarly, a study of complementary medicine providers in Australia[18] found that participants overwhelmingly reported positive perceptions of receiving PCC during their consultation with a clear correlation between patient perceptions, continuity of care (same practitioner) and patient empowerment (growing self-efficacy). These findings suggest that the relationship between healthcare practitioner and service user, and mutuality of the interaction however short lived, are key to successful PCC. This insight is important when we consider that radiographer interactions with patients are often relatively short and technically focused resulting in radiographers potentially appearing to be task focussed and overly conscious of time pressures, a perception that could be detrimental to the patient care experience [19,20].

Consequently, to successfully achieve PCC in radiography, it is essential that we define what PCC is, what it means and what it looks like within the context of diagnostic imaging. It is equally imperative that this is undertaken from the perspective of those using/experiencing, and those delivering, the imaging service to ensure that perceptions are aligned, and clarity exists re the knowledge, behaviours and skills necessary to create a person-centred care culture. This paper is the first of a series of papers exploring what PCC is within diagnostic radiography. It reports the

findings of a UK wide survey and will consider PCC from the perspective of clinical radiographers, radiography managers and service users to determine whether a consistent interpretation of PCC exists on which to build a culture of care. The 2nd paper in the series will provide depth to our understanding through reporting the findings of focus groups while further papers will explore PCC from the perspectives of student radiographers and educators to determine whether pre-registration education develops the necessary behaviours, knowledge and skills necessary to meet PCC expectations in clinical practice.

Method

This multi-method, 2 stage (survey followed by focus group) research study was funded by the UK College of Radiographers Industry Partnership scheme (CoRIPS). Ethical approval for the project was granted by the University of Derby College of Health & Social Care Ethics Committee (18/2/2018).

Survey Design & Distribution

Using the values, behaviours and outcomes from the Person-Centred Approaches Framework,[1] an online, cross sectional, attitudinal survey was developed. The attitudinal statements were focussed around 3 main themes: use of technology; comfort and emotional support; and control over the environment. Respondents were asked to indicate their level of agreement to the statements using a 5-point Likert scale (strongly agree; agree; neither agree or disagree; disagree; strongly disagree). The statements were paired (positive and negative phrasing) but not co-located to increase response validity. Respondents were also invited to provide free text comments to expand on their statement responses. The relevant version of the survey was piloted by a single service user, radiography manager and clinical radiographer prior to distribution and feedback on terminology and clarity addressed.

The survey was distributed online via Qualtrics and took less than 10 minutes to complete. Participation in the survey was open to anyone who confirmed they were a radiography service user, radiography manager or clinical radiographer (defined as spending 80% of working hours in a clinical role). Respondents were asked to indicate which of these groups they identified with on accessing the survey as statement phrasing was tailored to participant groups. As with all anonymous and remotely answered surveys, confirmation of respondent details was not possible. However, no cause or reason for false declaration was anticipated.

Recruitment of participants was via a poster at the UKRCO conference in July 2018 (utilizing a QRS code); social media (e.g. Twitter, LinkedIn); email networks; and word of mouth. Additionally, an invitation to participate was distributed through the University of Bradford and University of Derby service user and radiography manager networks. The survey was open for 8 weeks from 1st July 2018 – 30th August 2018.

Consent

A Participant Information Sheet was provided at the beginning of the survey explaining the background to the study. Different versions of the information sheet were used reflecting the participant sub-group. The information sheet explained issues relating to anonymity, confidentiality, withdrawal from study and debriefing process should the survey cause any anxiety. Participants were asked to check a box online to confirm they had read the information sheet and consented to participate. Only on actively consenting to participate were they able to access and complete the survey.

Sample

Given the varying sample frame for each participant subgroup, a minimum response rate of 30 participants within each subgroup was determined as sufficient for within and between subgroup analysis of responses.[21] While this minimal response rate may not be considered representative in terms of population proportion, it was considered sufficient to allow analysis of key themes to be identified for further exploration in the stage 2 focus groups reported elsewhere.

Data Analysis

Data from survey responses were entered into a SPSS database (SPSS Inc., Chicago, USA) for summary and descriptive analysis. The Wilcoxon Signed-Rank Test was used to determine whether participant responses varied between positive and negative phrasing. Kruskall-Wallace independent group analysis was undertaken to determine whether participant agreement with statements varied by participant group. An alpha value of 0.05 was used to determine significance.

Results

Survey responses from all participant subgroups were received from across the UK. Response rates varied across participant groups with 30 service users (n=30); 59 clinical radiographers (n=59); and 16 radiography managers (n=16) completing the survey. Only the radiography manager subgroup failed to meet expected response threshold. Responses are reported under the survey themes and a copy of survey statements is available from the corresponding author.

Use of technology

No significant difference in responses between phrasing of statements was noted for any participant subgroup. Further, no significant difference in level of agreement with statements was noted in responses between clinical radiographers and managers but a significant difference ($p<0.001$) was noted between service users and those responsible for delivery of imaging services (radiographers and radiography managers combined) for all responses to statements under this theme (Table 1). Importantly, while radiography managers and the majority of clinical radiographers reported high levels of expected or actual patient communication and support under this theme, patient respondents did not agree that this reflected their experience.

Table 1: Agreement (%) with positively phrased attitudinal statements – use of technology

Statement focus	Service Users (n=30)	Clinical Radiographers (n=59)	Radiography Managers (n=16)
Explanation of equipment, movement and noises	33.3% (n=10)	84.8% (n=50)	87.5% (n=14)
Explore any difficulties patient may have maintaining position	36.6% (n=11)	84.8% (n=50)	87.5% (n=14)
Understanding breathing/breath hold examination requirements	43.3% (n=13)	89.8% (n=53)	93.8% (n=15)
Prompt and clear communication of equipment problems or failures	23.3% (n=7)	94.9% (n=56)	100% (n=16)
Action re: any patient distress/anxiety before, during or after examination	40.0% (n=12)	98.3% (n=58)	100% (n=16)

Free text responses provided further insight into the imaging examination experience from the differing perspectives. Many patients commented and expanded on their

experience of care, particularly where this was below that expected, offering some explanation for limited levels of agreement with statements noted in Table 1.

> *"Radiographers usually, but not always, work with me when I explain the difficulties I have. But I always need to initiate these conversations" SUP7*

> *"Generally I am happy with the level of care I receive from radiographers but they don't always ask if I have any questions which would be a great starting point!" SUP9*

> *"Clear explanation of the length of the procedure is often helpful but rarely explained" SUP14*

> *"It is visually obvious that I am disabled but whilst I am usually offered assistance with walking into and out of the room/theatre, and with getting on and off the table/couch/machine, it is unfortunately very rare to be asked any questions about my ability to sustain a position or my comfort levels" SUP16*

In contrast, only 2 radiographers provided comments in relation to procedural explanations. Interestingly, both comments added weight to the reported patient perceptions raising concerns over professional practice either undertaken or observed.

> *"Patients are not aware of the many choices which are made, even in a relatively 'simple' examination, and radiographers can be guilty of not involving the patient in any of these, except for gaining implied consent…is this because of lack of time, lack of knowledge, lack of thought or lack of caring?*" *CRP10*

> *"Even if they have had the procedure before [you should] explain it from the beginning, in simple language, slowly. Allowing time for questions and for gaining informed consent" CRP 15*

Radiography managers also raised concerns in their free text comments re the patient experience.

"…when things go astray from a patient point of view, it is often the case that the radiographer has focussed too much on the task and not on the episode of care" RMP8

"It took me quite a few years to realise this, but patients value radiographers being caring towards them far more than they value their knowledge, skills or competence" RMP9

Comfort and care

Disparity was once again noted between service users and those responsible for delivery of imaging services (Table 2). A significant difference in participant responses between positive and negative phrasing of statements was noted for service users and clinical radiographers for those questions identified by a shaded box in Table 2. However, the direction of responses (direction of agreement or disagreement) was unchanged suggesting that strength of feeling towards statement focus rather than overall perception was influenced by question phrasing.

With the exception of statements related to "*Patients feel confident in the care they receive*" where no significant difference in level of agreement between service users and those responsible for delivery of imaging services (radiographers and radiography managers) was noted ($H=1.398$; $p=0.497$), a significant difference ($p<0.001$) was noted between service users and clinical respondents for all responses to statements under this theme (Table 2). Importantly, while the majority of radiography managers and clinical radiographers reported high levels of expected or actual patient comfort and care, patient respondents did not agree that this reflected their experience. Interestingly, no significant difference was noted in responses between clinical radiographers and radiography managers for any statements except "*Patients asked whether they would like a family member or carer to be involved in the conversation about their examination or care*". In response to this statement, a greater proportion of managers agreed that this was encouraged than the proportion of clinical radiographers agreeing that this was undertaken ($H=6.623$; $p=0.01$).

Table 2: Agreement (%) with positively phrased attitudinal statements – comfort and care

Statement focus	Service Users (n=30)	Clinical Radiographer	Radiography Managers

		s (n=59)	(n=16)
Explanations use appropriate language for patient understanding	76.7% (n=23) (z=-3.591; p<0.001)	98.3% (n=58)	93.8% (n=15)
Patients feel confident in the care they receive	83.3% (n=25) (z=-3.616; p<0.001)	91.5% (n=54)	87.5% (n=14)
Radiographers ensure patient is aware of who is in the examination room and their role	36.7% (n=11)	91.5% (n=54)	100% (n=16)
Use of 'Hello my name is..'	53.3% (n=16)	91.5% (n=54) (z=-2.000; p=0.046)	93.8% (n=15)
Patients invited to discuss their health problem and reason for attendance	23.3% (n=7)	74.6% (n=44)	87.5% (n=14)
Patients given the opportunity to ask questions about their examination	36.7% (n=11)	93.2% (n=55)	100% (n=16)
Patients given the opportunity to discuss their care needs for an effective examination	13.3% (n=4) (z=-2.195; p=0.027)	86.4% (n=51)	87.5% (n=14)
Patients asked whether they would like a family member or carer to be involved in the conversation about their examination or care	23.3% (n=7)	50.8% (n=30)	75.0% (n=12)
Radiographers take into account patient strength and resilience when assessing examination process and any modifications	30.0% (n=9)	98.3% (n=58)	100% (n=16)
Radiographers provide the patient with positioning preferences where alternatives are possible	30.0% (n=9)	89.8% (n=53)	75.0% (n=12)
Radiographers ensure the patient is able to maintain personal hygiene and provide support and assistance if required	23.3% (n=7)	79.7% (n=47)	87.5% (n=14)

Free text responses provided further insight into the care experience from the differing perspectives and again offer some level of explanation for differing levels of agreement with statements noted in Table 2.

Importantly, patients offered both positive and negative comments in relation to the care and comfort received although were more likely to report negative experiences or areas for improvement.

> *"I have never been treated with anything other than courtesy, consideration and support during the whole process" SUP17*

> *"It was ok. I felt confident they knew what they were doing …felt quite a cold experience, as if I was a product on a conveyer belt" SUP1*

> *"I was seen on time and dealt with efficiently and professionally but the whole experience was somewhat impersonal" SUP26*

Radiographers also identified areas where practice could be improved but tended to couch these comments within explanations of workload, time pressures and lack of resources.

> *"Patients should be at the heart of everything we do" CRP3*

> *"Often unable to give patients the level of care we would like due to time constraints" CRP4*

> *"We have to be caring but keep to time so you don't want to ask the patient lots of open questions…otherwise you will run behind" CRP2*

> *"We aren't always able to provide a choice of clothing to change into. We would only offer opportunity to include family members or carers if there was a need for it" CRP 30*

Manager free text comments confirmed the lack of resources to optimise departmental facilities or choice of gowns (control over environment theme) but equally positioned the patient at the heart of service delivery.

> *"Patient centred care is the top priority for me and the radiography team" RMP 15*

“We do ourselves and our profession a disservice if we do not put the patient /service users' needs at the heart of everything we do” RMP 12

“At present, unable to procure high level chairs with arms to help the patients due to financial restrictions” RMP10

“Things like gown choice are limited” RMP2

Control over environment

Statements under this theme resulted in the greatest disparity is responses. A significant difference in participant responses between positive and negative phrasing of statements was noted for service users and clinical radiographers for those questions identified by a shaded box in Table 3. However, the direction of responses (direction of agreement or disagreement) was unchanged suggesting that strength of feeling towards statement focus rather than overall perception was influenced by question phrasing.

A significant difference (range: p=0.002 - p<0.001) was noted in responses to all statements between service users and those responsible for delivery of imaging services (radiographers and radiography managers) (Table 3). However, greater divergence was also noted in responses from managers and clinical radiographers suggesting variation existed in expected (manager perceived) and actual (radiographer perceived) environmental aspects of service delivery. A significant difference in level of agreement was noted between radiographers and radiography managers for the statements related to “c*o-ordination of imaging with other hospital appointments*” (H=7.504; p=0.006) and “c*hoice of radiolucent clothing/gowns for examination (physical and cultural needs)*” (H=9.654; p=0.002) with managers significantly more likely to agree with the positive statement. Similarly, a borderline significant difference was found for statements related to “*communication of imaging appointment delays on departmental arrival*” (H=3.729; P=0.053) and “*ensuring size and length of clothing appropriate (physical and cultural needs)*” (H=3.763, P=0.053) with managers once again being more likely to agree with the positive statement.

Table 3: Level of agreement with attitudinal statements – control over environment

Question Focus	Service Users (n=30)	Clinical Radiographers (n=59)	Radiography Managers (n=16)
Co-ordination of imaging with other hospital appointments	20.0% (n=6)	64.4% (n=38)	87.5% (n=14)
Communication of imaging appointment delays on departmental arrival	33.3% (n=10)	84.7% (n=50)	87.5% (n=14)
Choice of radiolucent clothing/gowns for examination (physical and cultural needs)	10.0% (n=3) (z=-3.600; p<0.001)	11.9% (n=7) (z=-3.491; p<0.001)	43.8% (n=7)
Ensuring size and length of clothing appropriate (physical and cultural needs)	13.3% (n=4) (z=-2.410; p=0.014)	57.6% (n=34)	75.0% (n=12)
Provision of dressing gown, blanket or other items to maintain comfort, privacy and dignity	43.3% (n=13)	89.8% (n=53)	93.8% (n=15)
Choice over lighting and other environmental settings (e.g. music)	16.6% (n=5) (z=-3.272; p<0.001)	44.1% (n=26)	62.5% (n=10)

With respect to the imaging environment, most comments from all participant subgroups related to the suitability and choice of radiolucent clothing available. A patient further expanded on this reporting an experience of a friend.

> *"the machines were cold and no-one seemed to care that they had been left in that scanty piece of cloth that did not cover the back fully for some time" SUP10*

Discussion

It is evident from both the survey results and free text comments that the perception of PCC differs between participant groups with wide disparity between those delivering and those experiencing diagnostic imaging. There is also some level of inconsistency in perceptions of PCC delivery between radiography managers and clinical radiographers suggesting a disconnect in perceptions between those leading and managing the service and those at the clinical-patient interface. While free text

comments from clinical radiographers and mangers qualify some of the barriers to providing high quality PCC as being financial and environmental, patient comments re explanation, information and general caring demeanour require little, if any, financial investment or environmental change. However, empowering and engaging patients in all aspects of their imaging examination, as is required for high quality PCC, does require a change in working priorities from throughput and efficiency to patient centeredness.

It is interesting to note that advances in technology have promoted efficiency, service costs and improved workflow as key indicators of service quality and patient care and the emphasis on these, particularly time and efficiency, can be seen in the radiographer free text responses above. This drive for process efficiency has perhaps been further exacerbated by an extended period of financial austerity and the long-term promotion of efficiency savings and productivity gains "more with the same not more of the same".[22] As a result, the culture of radiography, at both a local and national levels, is likely to have been influenced by wider healthcare priorities, organisational drivers and delivery pressures and the findings of these surveys, and free text responses provided, indicate that radiographers recognise that they may not be prioritising the patient and their needs in the drive for service efficiency. This is also reiterated in the responses and comments from service users for whom it is the human interaction and the radiographers' interest and care for them and their particular needs during that interaction, rather than the imaging process, that are the key indicators of quality care. Consequently, it can be argued that while workflow efficiency and productivity costs are important for measuring service quality from an organisational perspective, they are not necessarily indicators of high-quality patient centred care.

As a profession, radiography cannot, and must not, let patient centred care be undermined by service delivery pressures and we must do all we can to maintain the patient at the centre of all we do. Many would argue that this is already the case but the findings of this survey from all participant subgroups raise some doubts over the centrality of PCC in everyday diagnostic radiography practice. Importantly, part of the issue may be the lack of a clear and shared definition of what high quality patient centred care is, or should be, what it looks like and how it is experienced from the service user perspective. Further it is impossible to determine this without engaging with our patient groups to establish what is important to them.

Limitations

This study has a number of limitations that should be taken into account when interpreting the findings. Firstly, respondents completed the survey based upon their own experience and did not report unanimously the experiences of all patients, radiographers and managers. However, the UK wide geographical area from which responses across all groups were received suggest that the findings are representative of experience and practice across the UK and not limited to isolated regions. The lack of respondents, particularly within the radiography manager group, is also a limitation. This may reflect a lack of awareness of the research although the diverse modes of advertising the research would contradict this. A further explanation is a lack of professional interest in patient centred care or limited priority given to this subject when faced with competing workflow and time pressures.

Conclusion

It is evident from the results of these surveys that we have some way to go before we have parity in how care within diagnostic radiography is perceived, experienced and delivered. However, survey findings can only suggest the need for service improvement to address disparities. In a follow-up paper we will report on focus groups and interviews across participant subgroups to explore and identify measurable and attainable service delivery outcomes that represent high quality patient centred care.

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